# **Martin Marietta Materials**

cc: Tom Wayne Task 4165

8200 IH 10 West Suite 600 San Antonio, TX 78230 Telephone (210) 696-8500 Watts (800) 683-2500

May 23, 2011

Paul Baker, Minerals Program Manager Department of Natural Resources Division of Oil, Gas and Mining 1594 West North Temple, Suite 1210 Salt Lake City, Utah 84116

RE: Martin Marietta Materials Inc., Milford Quarry

Beaver County, Utah, File No. M/001/0036

Response to First Review of Amended Notice of Intention to Commence

Large Mining Operations (Proposed Amendment 4)

Dear Mr. Baker:

Pursuant to the comments and requirements of your letter to Mr. John Stafne on March 7, 2011, Martin Marietta Materials, Inc. is providing a revised 2010 Bond Estimate to address the reclamation surety calculations. All 7 comments contained in your letter have been addressed as requested.

If you or your staff should have any questions or comments, please do not hesitate to contact me at your earliest convenience. Additionally, our technical consultant for this project is Forster Engineering and you may contact Mr. Charles P. "Frosty" Forster, P.E., P.G. for technical questions or clarifications at (210) 698-5544.

Respectfully,

Shelby J. Olsen

Director of Environmental Services & Land Management

Cc: Charles P. "Frosty" Forster, P.E., P.G.

relby Olsen



## 2010 Bond Estimate

For

**Milford Quarry** 

Permit # M/001/036

# MARTIN MARIETTA MATERIALS, INC. Milford, Utah

Prepared By:

### FORSTER ENGINEERING

FORSTER ENGINEERING 19915 Wittenburg San Antonio, Texas 78256 Phone: 210-698-5544 Fax: 210-698-5544

www.forsterengineering.com

December 2010

Revised: May 2011



Martin Marietta Materials Inc., (MMM) is operating the Milford Quarry in Beaver County, Utah under Permit # M/001/036. MMM currently has a Surety Bond (#20S101075924) in the amount of \$1,678,599 on file with the State of Utah Department of Natural resources. The reclamation bond estimate for 2010 has been adjusted to reflect the changes proposed in the permit Amendment 4 application submitted to the Division of Oil, Gas and Mining (DOGM) in December 2010. The adjustments reflect current conditions and operations as well as proposed long-term plans.

The mine and reclamation planning, cross-sections, and volume calculations were prepared with Autodesk's AutoCAD Civil 3D software.

Equipment operating costs and labor rates were provided by the Utah DOGM. Costs from the 2011 RS Means Cost Handbook were used in the bond cost estimate.

This bond cost estimate was revised to comply with the format required by DOGM using spreadsheets provided by DOGM. The bond cost summary is shown on the following page. The remainder of the report contains cost calculations of plant and facilities demolition/disposal, earthwork activities, revegetation, and equipment production worksheets.

#### **BOND COST SUMMARY**

		Cost \$
Direct Costs		
Subtotal Demolition and Removal		\$259,787
Subtotal Backfilling and Grading		\$1,966,304
Subtotal Revegetation		\$101,147
Total Direct Costs		\$2,327,238
Indirect Costs		
Mob/Demob	10.0%	\$232,724
Contingency	5.0%	\$116,362
Engineering Redesign	2.5%	\$58,181
Main Office Expense	6.8%	\$158,252
Project Management Fee	2.5%	\$58,181
Total Indirect Costs	26.8%	\$623,700
Total Cost 2010		\$2,950,938
Number of years	5	
Escalation factor	0.007	
Escalation		\$104,739
Reclamation Cost Escalated		\$3,055,677
Bond Amount (rounded to nearest \$1,000)		\$3,056,000

Posted Bond \$1,678,599

Difference Between Cost Estimate and Bond -\$1,377,401
Percent Difference -82.06%

Description	Cost
Shop Building	\$ 146,384
Office Building	\$ 146,384 14,924
Total	\$ 161,308

	Description Shop Building	Materials	Means Reference Number	Unit Cost	Unit	Length	Width	Height	Area	Volume	Quantity	Unit	Cost
						100	50	25	5000	125000			
	Deduct 50% no interior walls			2.30	2016								
	Structure's Demolition Cost	Steel	02 41 16.13 0020	0.31	\$/CFt	100	50	25					
	Structure's Vol. Demolished		Taran National Control							125000	125000	CFt	\$ 38,75
	Rubble's Weight (exclude steel)											Lancon Control	
	Truck's Capacity		THE RESERVE										No. of Line
	Haulage		LEFE TO STATE		201								
	Transportation Cost Non Steel Truck					The state of							
	Transportation Cost Non Steel Drive						JOHN ST		2500				
	Disposal Cost Non Steel											13.00	
	Steel's Weight		AL PROPERTY.										
115	Truck's Capacity									-			
	Haulage		V 444 2 3 3 5 5 5 5										-
	Transportation Cost Steel Truck					-			10/15/16/16				
TON	Transportation Cost Steel Truck Drive					-							-
	Disposal Cost Steel	Disposal of material - Maximum	02 41 16 15 0500	\$ 13.40	¢/Cv	-				4630	4630	Cu	\$ 62.03
	Subtotal	Disposal of material - Waximum	02 41 10.13 0300	\$ 13.40	ъ/С <b>у</b>					4630	4630	Су	\$ 100,78
	Equipment 's Disposal Cost						- 124						
	Dismantling Cost												
	Equipment 's Vol. Demolished												-
	Loading Costs					-							
	Transport Costs				-	-							
	Disposal Costs					-							
	Subtotal												\$ -
	Concrete Demolition	6" Concrete slab w/ rebar	02 41 16.17 0440	7.8	/SFt	100	50		5000		5000	SEt	\$ 39,000
	Demolition Cost		02 11 10111 0110	7.0	1011	100	- 00		0000		0000	Ort	Ψ 05,000
	Concrete's Vol. Demolished					100						-	
	Loading Cost												-
	Transportation Cost												-
	Disposal Costs					-							-
	Subtotal												\$ 39,000
	Concrete Demolition	Concrete Footings 18" x 24"	02 41 16.17 1080	18.15	I Ft	100	50				300	1 Ft	\$ 5,44
EXT	Demolition Cost			10.10		100	- 00	-			000		Ψ 0,111
	Concrete's Vol. Demolished												
	Loading Cost												-
121	Transportation Cost												-
	Disposal Costs					-							
	Subtotal												\$ 5,445
	Concrete Demolition												
	Demolition Cost										126		
	Concrete's Vol. Demolished										120		-
	Loading Cost												-
17.00	Transportation Cost												
-	Disposal Costs	Concrete On-Site Disposal	00 44 46 47 4000	0.45								0	
	Subtotal	Concrete On-Site Disposal	02 41 16.17 4200	9.15							126	Су	\$ 1,152 \$ 1,152
4800	Total												\$ 146,384

f.	Description Office Building	Materials	Means Reference Number	Unit		Unit	Length	Width	Height	Area	Volume	Quantity	Unit	Cost
			THE THE STATE OF T	1			50	2	4	9		2.702	Land H	11-12-
	Structure's Demolition Cost		1 3 1 K K K K K	132	1.0	APPENDE			CALL THE	12.52.10				
	Structure's Vol. Demolished	Mixture of types, average	02 41 16.13 0100	\$	0.33	\$/CFt	50	2	4	9	10800	10800	CFt	\$ 3,56
Valle.	Rubble's Weight (exclude steel)		The second second second					PER LANG						
	Truck's Capacity		The British Co.				La Park XX	200 E 80	and the second				7 -45	
	Haulage								1000000			E NEW TOWN	1134	
AVIIII -	Transportation Cost Non Steel Truck				1 4 8	1-14625	11.00							
	Transportation Cost Non Steel Drive		PROFILE TAX AND ADDRESS.				1000	100						75.00
	Disposal Cost Non Steel				= () -									
	Steel's Weight		Carlo State State of									<b>他自然</b>		
	Truck's Capacity													
	Haulage		<b>产生生物学</b>	DOTATE.		To the first								
100	Transportation Cost Steel Truck							- Part 18-5				THE STATE OF THE S		
	Transportation Cost Steel Truck Drive					and the second	1000			10.00				
	Disposal Cost Steel	Disposal of material - Maximum	02 41 16.15 0500	\$	13.40		50	2	4	9	400	400	Су	\$ 5,36
	Subtotal													\$ 8,92
	Equipment 's Disposal Cost													
	Dismantling Cost			100	Congress of	4.3								
	Equipment 's Vol. Demolished													
	Loading Costs													Paris In
	Transport Costs									100 To 100		E P B		18.00
	Disposal Costs													
	Subtotal										A complete			\$ -
	Concrete Demolition	4" Concrete slab w/ wire mesh	02 41 16.17 0280	\$	5.00	/SFt	50	2	4	1200		1200		\$ 6,00
	Demolition Cost		Strain Edward Land	100		4 HE - X	Park and							
	Concrete's Vol. Demolished				P.V.				A Market					
	Loading Cost				NET L									
	Transportation Cost													
	Disposal Costs													
	Subtotal													\$ 6,00
	Concrete Demolition						14.00							
	Demolition Cost									16 表现基础		March 18		
	Concrete's Vol. Demolished				101		1000							
	Loading Cost													
	Transportation Cost													
	Disposal Costs													
	Subtotal		9430.00											\$ -
	Concrete Demolition									= -00113				
	Demolition Cost													
	Concrete's Vol. Demolished													
	Loading Cost					1,19								
	Transportation Cost				-									
	Disposal Costs										The second second			
	Subtotal	The second description of the second				and the second								5 -
			The second secon	1	11 11 134			-						-

40	39	38	3/	30	300	35	34	0	33	32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	З	2	1	No.	Item
 Misc Solid Waste Disposal Cost	Equipment Removal to auction lot in Milford	Truck Scale	MCC Conex	ruel Storage Lanks (3)	Taid	Coron Vard	Water Well Storage Tank	0.01	150' Overflow Stacker	Wet Screen	100' Loadout Stacker	80' Conveyor Loadout #1	60' Conveyor Overflow#1	150' Overflow Stacker	Reclaim Tunnel w/ Feeders & Conveyor	120' Ballast Stacker			120' Ballast Stacker		60' Commercial Conveyor #2	60' Commercial Conveyor #1				Blending Conveyor	65' Cone Feed Conveyor #2	30' Cone Feed Conveyor #1	El-Jay Screen		50' Cone Discharge Conveyor	Omni Cone Crusher	50 ' Scalper Belt	Scalper Screen	90' Stacker	60 Ft Surge Conveyor & Magnet	Surge Feeder	Overland Conveyor	Jaw Crusher	Apron Feeder	Truck Dump		Item
49	69	4	4	4	9 6	9 4	59	•	A.	8	49	\$	49	€9	49	€9	49	49	49	49	\$	\$	\$	€9	\$	\$	\$	\$	\$	\$	\$	\$	69	\$	\$	49	\$	\$	49	\$	\$		
10,000	1.757	2,399		909	4,000	4 066	606	1,111	1 414	2.157	1,015	575	606	1,414	16,162	1,015	606	1,015	1,015	1,414	606	606	1,414	606	606	606	606	303	1,588	606	606	1,404	606	1,588	811	606	1,005	28,909	1,199	1,199	3,858	4	Cost

Truck Dump	Equipment Cost	Hourly Operating Costs	Equipment Overhead	Operator's Hourly Wage Rate	Hourly Cost	Number of Men or Eq.	Total Eq. & Lab. Costs	Quantity	Units	C	ost
Remove grizzly with supports, excavate truck box used as dump, cut all to scrap, load & haul away											
Cat 980 Loader	11080	63.75	0.1	67.75	207.13	1	207.13		Hrs	\$	829
Cat 235 Track hoe	11080	58.85	0.1	67.75	201.74	1	201.74		Hrs	\$	605
Mechanics Truck	1090	16.45	0.1	69.85	94.76	1	94.76		Hrs	\$	758
Manlift	5133	13.95	0.1	52.25	99.67	1	99.67		Hrs	\$	797
Flatbed / Transport Truck	2975	34.3	0.1	52.25	108.57		108.57	0	Hrs	\$	869
Subtotal										\$	3,858

Apron Feeder	Equipment Cost	Hourly Operating Costs	Equipment Overhead	Operator's Hourly Wage Rate	Hourly Cost	Number of Men or Eq.	Total Eq. & Lab. Costs	Quantity	Units	C	ost
Remove cords, guards, chutes, handrails, etc. Load onto truck for transport to Milford											
50 Ton Crane	9985	67.65	0.1	67.75	204.57	1	204.57		Hrs	\$	205
Mechanics Truck	1090	16.45	0.1	69.85	94.76	1	94.76	4	Hrs	\$	379
Manlift	5133	13.95	0.1	52.25	99.67	1	99.67	4	Hrs	\$	399
Flatbed / Transport Truck	2975	34.3	0.1	52.25	108.57	1	108.57	2	Hrs	\$	217
Subtotal										\$	1,199

Jaw Crusher	Equipment Cost	Hourly Operating Costs	Equipment Overhead	Operator's Hourly Wage Rate	Hourly Cost	Number of Men or Eq.	Total Eq. & Lab. Costs	Quantity	Units	С	ost
Remove cords, guards, chutes, handrails, etc. Load onto truck for transport to Milford											
50 Ton Crane	9985	67.65	0.1	67.75	204.57	1	204.57	3 1	Hrs	\$	205
Mechanics Truck	1090	16.45	0.1	69.85	94.76	1	94.76	4	Hrs	\$	379
Manlift	5133	13.95	0.1	52.25	99.67	1	99.67		Hrs	\$	399
Flatbed / Transport Truck	2975	34.3	0.1	52.25	108.57	1	108.57	2	Hrs	\$	217
						9					
										96.30	
the state of the s										\$	1,199

Overland Conveyor	Equipment Cost	Hourly Operating Costs	Equipment Overhead	Operator's Hourly Wage Rate	Hourly Cost	Number of Men or Eq.	Total Eq. & Lab. Costs	Quantity	Units	Cost
Remove belt, disassemble conveyor in 20ft sections Load onto 5 trucks for transport to Milford Load belt onto 2 trucks for transport to Milford			*							
50 Ton Crane	9985	67.65	0.1	67.75	204.57	1	204.57	1	Hrs	\$ 205
Mechanics Truck	1090	16.45	0.1	69.85	94.76	1	94.76	132	Hrs	\$ 12,508
Manlift	5133	13.95	0.1	52.25	99.67	1	99.67	132	Hrs	\$ 13,156
Flatbed / Transport Truck	2975	34.3	0.1	52.25	108.57	7	759.99	4	Hrs	\$ 3,040
			2							
										\$ 28,909

Surge Feeder	Equipment Cost	Hourly Operating Costs	Equipment Overhead	Operator's Hourly Wage Rate	Hourly Cost	Number of Men or Eq.	Total Eq. & Lab. Costs	Quantity	Units	C	ost
Remove cords, guards, chutes, hopper wings, etc. Load onto truck for transport to Milford											
50 Ton Crane	9985	67.65	0.1	67.75	204.57	1	204.57		Hrs	\$	205
Mechanics Truck	1090	16.45	0.1	69.85	94.76	1	94.76		Hrs	\$	284
Manlift	5133	13.95	0.1	52.25	99.67	1	99.67		Hrs	\$	299
Flatbed / Transport Truck	2975	34.3	0.1	52.25	108.57	1	108.57	2	Hrs	\$	217
									1 1 1 Jun		
			70000					76.00		\$	1,005

60 Ft Surge Conveyor & Magnet	Equipment Cost	Hourly Operating Costs	Equipment Overhead	Operator's Hourly Wage Rate	Hourly Cost	Number of Men or Eq.	Total Eq. & Lab. Costs	Quantity	Units	Cost
Remove cords, guards, chutes, etc. Load onto truck for transport to Milford										
Mechanics Truck	1090	16.45	0.1	69.85	94.76	1	94.76	2	Hrs	\$ 190
Manlift	5133	13.95	0.1	52.25	99.67	1	99.67		Hrs	\$ 199
Flatbed / Transport Truck	2975	34.3	0.1	52.25	108.57	1	108.57	2	Hrs	\$ 217
	7 (3 %)									
	1200					461 (45)		AL PARLY		\$ 606

90' Stacker	Equipment Cost	Hourly Operating Costs	Equipment Overhead	Operator's Hourly Wage Rate	Hourly Cost	Number of Men or Eq.	Total Eq. & Lab. Costs	Quantity	Units	Cost
Remove cords, guards, chutes, catwalk, handrails etc. Load onto truck for transport to Milford										
50 Ton Crane	9985	67.65	0.1	67.75	204.57	1	204.57	1	Hrs	204.57
Mechanics Truck	1090	16.45	0.1	69.85	94.76	1	94.76	2	Hrs	189.52
Manlift	5133	13.95	0.1	52.25	99.67	1	99.67	2	Hrs	199.34
Flatbed / Transport Truck	2975	34.3	0.1	52.25	108.57	1	108.57	2	Hrs	217.14
		general and the second								
		K. BETALE							Haraes	
										810.57

Scalper Screen	Equipment Cost	Hourly Operating Costs	Equipment Overhead	Operator's Hourly Wage Rate	Hourly Cost	Number of Men or Eq.	Total Eq. & Lab. Costs	Quantity	Units		Cost
Remove cords, guards, chutes, catwalk, handrails etc. Load onto truck for transport to Milford											
50 Ton Crane	9985	67.65	0.1	67.75	204.57	1	204.57	1	Hrs	\$	205
Mechanics Truck	1090	16.45		69.85	94.76	1	94.76	6	Hrs	\$	569
Manlift	5133	13.95		52.25	99.67	1	99.67		Hrs	\$	598
Flatbed / Transport Truck	2975	34.3	0.1	52.25	108.57	1	108.57	2	Hrs	\$	217
		Fig. a.							N/A	182	
										\$	1,588

50 ' Scalper Belt	Equipment Cost	Hourly Operating Costs	Equipment Overhead	Operator's Hourly Wage Rate	Hourly Cost	Number of Men or Eq.	Total Eq. & Lab. Costs	Quantity	Units	C	ost
Remove cords, guards, chutes, catwalk, handrails etc. Load onto truck for transport to Milford											
Mechanics Truck	1090	16.45	0.1	69.85	94.76	1	94.76	2	Hrs	\$	190
Manlift	5133	13.95	0.1	52.25	99.67	1	99.67	2	Hrs	\$	199
Flatbed / Transport Truck	2975	34.3		52.25	108.57	1	108.57		Hrs	\$	217
										\$	606

Omni Cone Crusher	Equipment Cost	Hourly Operating Costs	Equipment Overhead	Operator's Hourly Wage Rate	Hourly Cost	Number of Men or Eq.	Total Eq. & Lab. Costs	Quantity	Units	С	ost
Remove cords, guards, chutes, conveyor(s), handrails Load onto truck for transport to Milford	etc.										
50 Ton Crane	9985	67.65	0.1	67.75	204.57	1	204.57	2	Hrs	\$	409
Mechanics Truck	1090	16.45		69.85	94.76	1	94.76		Hrs	\$	379
Manlift	5133	13.95		52.25	99.67	1	99.67		Hrs	\$	399
Flatbed / Transport Truck	2975	34.3	0.1	52.25	108.57	1	108.57	2	Hrs	\$	217
										\$	1,404

50' Cone Discharge Conveyor	Equipment Cost	Hourly Operating Costs	Equipment Overhead	Operator's Hourly Wage Rate	Hourly Cost	Number of Men or Eq.	Total Eq. & Lab. Costs	Quantity	Units	C	ost
Remove cords, guards, chutes, catwalk, handrails etc. Load onto truck for transport to Milford											
Mechanics Truck	1090	16.45		69.85	94.76	1	94.76		. Hrs	\$	190
Manlift	5133	13.95		52.25	99.67	1	99.67		Hrs	\$	199
Flatbed / Transport Truck	2975	34.3	0.1	52.25	108.57	1	108.57		! Hrs	\$	217
										100	
										\$	606

60' Screen Feed Belt	Equipment Cost	Hourly Operating Costs	Equipment Overhead	Operator's Hourly Wage Rate	Hourly Cost	Number of Men or Eq.	Total Eq. & Lab. Costs	Quantity	Units	Cost
Remove cords, guards, chutes, catwalk, handrails etc. Load onto truck for transport to Milford										
Mechanics Truck	1090	16.45	0.1	69.85	94.76	1	94.76	2	Hrs	\$ 190
Manlift	5133	13.95	0.1	52.25	99.67	1	99.67		Hrs	\$ 199
Flatbed / Transport Truck	2975	34.3	0.1	52.25	108.57	1	108.57	2	Hrs	\$ 217
	- 50 Y						100000			
	21-10-1-1									
		A 18.04								
										\$ 606

El-Jay Screen	Equipment Cost	Hourly Operating Costs	Equipment Overhead	Operator's Hourly Wage Rate	Hourly Cost	Number of Men or Eq.	Total Eq. & Lab. Costs	Quantity	Units	C	ost
Remove cords, guards, chutes, catwalk, handrails etc. Load onto truck for transport to Milford											
50 Ton Crane	9985	67.65	0.1	67.75	204.57	1	204.57	1	Hrs	\$	205
Mechanics Truck	1090	16.45	0.1	69.85	94.76	1	94.76	6	Hrs	\$	569
Manlift	5133	13.95	0.1	52.25	99.67	1	99.67	6	Hrs	\$	598
Flatbed / Transport Truck	2975	34.3	0.1	52.25	108.57	1	108.57	2	Hrs	\$	217
						7 Table 1					
					10.01.00						
the first of the grown and substitutions are the substitution of the			1141							\$	1,588

30' Cone Feed Conveyor #1	Equipment Cost	Hourly Operating Costs	Equipment Overhead	Operator's Hourly Wage Rate	Hourly Cost	Number of Men or Eq.	Total Eq. & Lab. Costs	Quantity	Units	C	ost
Remove cords, guards, chutes, catwalk, handrails etc. Load onto truck for transport to Milford											
Mechanics Truck	1090	16.45	0.1	69.85	94.76	1	94.76	1	Hrs	\$	95
Manlift	5133	13.95	0.1	52.25	99.67	1	99.67	1	Hrs	\$	100
Flatbed / Transport Truck	2975	34.3	0.1	52.25	108.57	1	108.57	1	Hrs	\$	109
				392							
									10.4		
(A) (A) 中国 (A)								2.4 (4.64)		\$	303

65' Cone Feed Conveyor #2	Equipment Cost	Hourly Operating Costs	Equipment Overhead	Operator's Hourly Wage Rate	Hourly Cost	Number of Men or Eq.	Total Eq. & Lab. Costs	Quantity	Units	Cost
Remove cords, guards, chutes, catwalk, handrails etc. Load onto truck for transport to Milford										
Mechanics Truck	1090	16.45	0.1	69.85	94.76	1	94.76	2	Hrs	\$ 190
Manlift	5133	13.95	0.1	52.25	99.67	1	99.67		Hrs	\$ 199
Flatbed / Transport Truck	2975	34.3	0.1	52.25	108.57	1	108.57		Hrs	\$ 217
										606
										\$

Blending Conveyor	Equipment Cost	Hourly Operating Costs	Equipment Overhead	Operator's Hourly Wage Rate	Hourly Cost	Number of Men or Eq.	Total Eq. & Lab. Costs	Quantity	Units	Cost
Remove cords, guards, chutes, etc. Load onto truck for transport to Milford										
Mechanics Truck	1090	16.45	0.1	69.85	94.76	1	94.76	2	Hrs	\$ 190
Manlift	5133	13.95		52.25	99.67	1	99.67	2	Hrs	\$ 199
Flatbed / Transport Truck	2975	34.3	0.1	52.25	108.57	1	108.57	2	Hrs	\$ 217
				1.4 T/1.1						
									9	
					48.75					
										\$ 606

60' Fines Conveyor #1	Equipment Cost	Hourly Operating Costs	Equipment Overhead	Operator's Hourly Wage Rate	Hourly Cost	Number of Men or Eq.	Total Eq. & Lab. Costs	Quantity	Units	0	ost
Remove cords, guards, chutes, etc. Load onto truck for transport to Milford											
Mechanics Truck	1090	16.45	0.1	69.85	94.76	1	94.76		Hrs	\$	190
Manlift	5133	13.95	0.1	52.25	99.67	1	99.67		Hrs	\$	199
Flatbed / Transport Truck	2975	34.3	0.1	52.25	108.57	1	108.57	2	Hrs	\$	217
				100							
									4 19 33		
	7.0 mm P. G. May 200	160° 110° 120° 120°			a Charles	Market III		46.20.4		S	606

60' Fines Conveyor #2	Equipment Cost	Hourly Operating Costs	Equipment Overhead	Operator's Hourly Wage Rate	Hourly Cost	Number of Men or Eq.	Total Eq. & Lab. Costs	Quantity	Units	C	ost
Remove cords, guards, chutes, etc. Load onto truck for transport to Milford											
Mechanics Truck	1090	16.45	0.1	69.85		1	94.76		Hrs	\$	190
Manlift	5133	13.95		52.25	99.67	1	99.67		Hrs	\$	199
Flatbed / Transport Truck	2975	34.3	0.1	52.25	108.57	1	108.57	2	Hrs	\$	217
											lak -
											149
						an december	4 2 2 2 3 4 3 4 3 4			\$	606

100' Fines Stacker	Equipment Cost	Hourly Operating Costs	Equipment Overhead	Operator's Hourly Wage Rate	Hourly Cost	Number of Men or Eq.	Total Eq. & Lab. Costs	Quantity	Units	Cost
Foldable - Remove cords, chutes & Guards; Lift discharged, rotate wheels, fold, lower to transport position. Tow to Milford	irge									
50 Ton Crane	9985	67.65	0.1	67.75	204.57	1	204.57		Hrs	\$ 6
Mechanics Truck	1090	16.45	0.1	69.85	94.76	1	94.76	3	Hrs	\$ 28
Manlift	5133	13.95	0.1	52.25	99.67	1	99.67	3	Hrs	\$ 29
Flatbed / Transport Truck	2975	34.3	0.1	52.25	108.57	1	108.57	2	Hrs	\$ 2
										\$ 1,4

60' Commercial Conveyor #1	Equipment Cost	Hourly Operating Costs	Equipment Overhead	Operator's Hourly Wage Rate	Hourly Cost	Number of Men or Eq.	Total Eq. & Lab. Costs	Quantity	Units	С	ost
Remove cords, guards, chutes, catwalk, handrails etc. Load onto truck for transport to Milford											
Mechanics Truck	1090	16.45		69.85	94.76	1	94.76		Hrs	\$	190
Manlift	5133	13.95		52.25	99.67	1	99.67		Hrs	\$	199
Flatbed / Transport Truck	2975	34.3	0.1	52.25	108.57	1	108.57	2	Hrs	\$	217
		1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1									= 1.16
					· · · · · · · · · · · · · · · · · · ·						
							- 4 mag 11 m				
		PROFILE								\$	606

60' Commercial Conveyor #2	Equipment Cost	Hourly Operating Costs	Equipment Overhead	Operator's Hourly Wage Rate	Hourly Cost	Number of Men or Eq.	Total Eq. & Lab. Costs	Quantity	Units	C	ost
Remove cords, guards, chutes, catwalk, handrails etc. Load onto truck for transport to Milford											
Mechanics Truck	1090	16.45	0.1	69.85	94.76	1	94.76	2	Hrs	\$	190
Manlift	5133	13.95		52.25	99.67	1	99.67		Hrs	\$	199
Flatbed / Transport Truck	2975	34.3	0.1	52.25	108.57	1	108.57	2	Hrs	\$	217
				3 r 100							
										\$	606

120' Commercial Stacker	Equipment Cost	Hourly Operating Costs	Equipment Overhead	Operator's Hourly Wage Rate	Hourly Cost	Number of Men or Eq.	Total Eq. & Lab. Costs	Quantity	Units	Cost
Foldable - Remove cords, chutes & Guards; Lift discharged, rotate wheels, fold, lower to transport position.  Tow to Milford	irge									
50 Ton Crane	9985	67.65	0.1	67.75	204.57	1	204.57	3	Hrs	\$ 614
Mechanics Truck	1090	16.45	0.1	69.85	94.76	1	94.76	3	Hrs	\$ 284
Manlift	5133	13.95	0.1	52.25	99.67	1	99.67	3	Hrs	\$ 299
Flatbed / Transport Truck	2975	34.3	0.1	52.25	108.57	1	108.57	2	Hrs	\$ 217
										\$ 1,414

120' Ballast Stacker	Equipment Cost	Hourly Operating Costs	Equipment Overhead	Operator's Hourly Wage Rate	Hourly Cost	Number of Men or Eq.	Total Eq. & Lab. Costs	Quantity	Units	С	ost
Non-folding - Remove cords, chutes & Guards; Lift discharge end, lower to transport position.											
50 Ton Crane	9985	67.65	0.1	67.75	204.57	1	204.57	2	Hrs	\$	409
Mechanics Truck	1090	16.45			94.76	1	94.76		Hrs	\$	190
Manlift	5133	13.95			99.67	1	99.67		Hrs	\$	199
Flatbed / Transport Truck	2975	34.3			108.57	1	108.57		Hrs	\$	217
					- 191						
						6 14 12 12 12 12 12				\$	1,015

120' Ballast Stacker #1	Equipment Cost	Hourly Operating Costs	Equipment Overhead	Operator's Hourly Wage Rate	Hourly Cost	Number of Men or Eq.	Total Eq. & Lab. Costs	Quantity	Units	Co	ost
Non-folding - Remove cords, chutes & Guards; Lift discharge end, lower to transport position.											
50 Ton Crane	9985	67.65	0.1	67.75	204.57	1	204.57	2	Hrs	\$	409
Mechanics Truck	1090	16.45	0.1		94.76	1	94.76	2	Hrs	\$	190
Manlift	5133	13.95	0.1	52.25	99.67	1	99.67		Hrs	\$	199
Flatbed / Transport Truck	2975	34.3	0.1		108.57	1	108.57	2	Hrs	\$	217
										180.7	
										\$	1,015

60' Ballast Conveyor #2	Equipment Cost	Hourly Operating Costs	Equipment Overhead	Operator's Hourly Wage Rate	Hourly Cost	Number of Men or Eq.	Total Eq. & Lab. Costs	Quantity	Units	Cost
Remove cords, guards, chutes, catwalk, handrails etc. Load onto truck for transport to Milford										
Mechanics Truck	1090	16.45	0.1	69.85	94.76	1	94.76		Hrs	\$ 190
Manlift	5133	13.95	0.1	52.25	99.67	1	99.67		Hrs	\$ 199
Flatbed / Transport Truck	2975	34.3	0.1	52.25	108.57	1	108.57	2	Hrs	\$ 217
	- M. W.									
				4-4						\$ 606

120' Ballast Stacker	Equipment Cost	Hourly Operating Costs	Equipment Overhead	Operator's Hourly Wage Rate	Hourly Cost	Number of Men or Eq.	Total Eq. & Lab. Costs	Quantity	Units	Cos	st
Non-folding - Remove cords, chutes & Guards; Lift discharge end, lower to transport position.											
50 Ton Crane	9985	67.65		67.75	204.57	1	204.57		Hrs		409
Mechanics Truck	1090	16.45		69.85	94.76	1	94.76		Hrs		190
Manlift	5133	13.95		52.25	99.67	1	99.67		Hrs		199
Flatbed / Transport Truck	2975	34.3	0.1	52.25	108.57		108.57		Hrs	\$	217
								244			
		429									
										\$ 1,	,015

Reclaim Tunnel w/ Feeders & Conveyor	Equipment Cost	Hourly Operating Costs	Equipment Overhead	Operator's Hourly Wage Rate	Hourly Cost	Number of Men or Eq.	Total Eq. & Lab. Costs	Quantity	Units	Cost
Remove elictrical, disassemble conveyor, remove feed Demolish & Excavate tunnel Haul coneyor and feeders to Milford	lers									
Cat 980 Loader	11080	63.75	0.1	67.75	207.13	1	207.13	8	Hrs	\$ 1,657
Cat 235 Track hoe	11080	58.85	0.1	67.75	201.74	1	201.74		Hrs	\$ 8,070
Mechanics Truck	1090	16.45	0.1	69.85	94.76	1	94.76		Hrs	\$ 3,790
Manlift	5133	13.95	0.1	52.25	99.67	1	99.67		Hrs	\$ 1,993
Flatbed / Transport Truck	2975	34.3	0.1	52.25	108.57		108.57	6	Hrs	\$ 651
	10									1 ×
					188					
Subtotal					10.00		*			\$ 16,162

150' Overflow Stacker	Equipment Cost	Hourly Operating Costs	Equipment Overhead	Operator's Hourly Wage Rate	Hourly Cost	Number of Men or Eq.	Total Eq. & Lab. Costs	Quantity	Units	Cost
Foldable - Remove cords, chutes & Guards; Lift discharge end, rotate wheels, fold, lower to transport position. Tow to Milford	)									
50 Ton Crane	9985	67.65	0.1	67.75	204.57	1	204.57		3 Hrs	\$ 614
Mechanics Truck	1090	16.45	0.1	69.85	94.76	1	94.76		3 Hrs	\$ 284
Manlift	5133	13.95	0.1	52.25	99.67	1	99.67		3 Hrs	\$ 299
Flatbed / Transport Truck	2975	34.3	0.1	52.25	108.57	1	108.57		2 Hrs	\$ 217
and the second participation of the second s					1002			7 1 2 2		\$ 1,414

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Equipment Cost	Hourly Operating Costs	Equipment Overhead	Operator's Hourly Wage Rate	Hourly Cost	Number of Men or Eq.	Total Eq. & Lab. Costs	Quantity	Units		Cost
1090	16.45	0.1	69.85	94.76	1	94.76			\$	190
5133	13.95	0.1			1				_	199
2975	34.3	0.1	52.25	108.57	1	108.57		2 Hrs	\$	217
		988								
									S	606
	1090 5133	Equipment   Operating   Costs	Equipment Cost         Operating Costs         Equipment Overhead           1090         16.45         0.1           5133         13.95         0.1	Equipment Cost         Operating Costs         Equipment Overhead         Hourly Wage Rate           1090         16.45         0.1         69.85           5133         13.95         0.1         52.25	Equipment Cost         Operating Costs         Equipment Overhead         Hourly Wage Rate         Hourly Cost           1090         16.45         0.1         69.85         94.76           5133         13.95         0.1         52.25         99.67	Equipment Cost         Operating Costs         Equipment Overhead         Hourly Wage Rate         Hourly Cost         Hourly of Men or Eq.           1090         16.45         0.1         69.85         94.76         1           5133         13.95         0.1         52.25         99.67         1	Equipment Cost         Operating Costs         Equipment Overhead         Hourly Wage Rate         Hourly Cost         of Men or Eq.         Eq. & Lab. Costs           1090         16.45         0.1         69.85         94.76         1         94.76           5133         13.95         0.1         52.25         99.67         1         99.67	Equipment Cost         Operating Costs         Equipment Overhead         Hourly Wage Rate         Hourly Cost         of Men or Eq.         Eq. & Lab. Costs         Quantity           1090         16.45         0.1         69.85         94.76         1         94.76           5133         13.95         0.1         52.25         99.67         1         99.67	Equipment Cost         Operating Costs         Equipment Overhead         Hourly Wage Rate         Hourly Cost         of Men or Eq.         Eq. & Lab. Costs         Quantity         Units           1090         16.45         0.1         69.85         94.76         1         94.76         2         Hrs           5133         13.95         0.1         52.25         99.67         1         99.67         2 Hrs	Equipment Cost         Operating Costs         Equipment Overhead         Hourly Wage Rate         Hourly Cost         of Men or Eq.         Eq. & Lab. Costs         Quantity         Units           1090         16.45         0.1         69.85         94.76         1         94.76         2 Hrs         \$           5133         13.95         0.1         52.25         99.67         1         99.67         2 Hrs         \$

80' Conveyor Loadout #1	Equipment Cost	Hourly Operating Costs	Equipment Overhead	Operator's Hourly Wage Rate	Hourly Cost	Number of Men or Eq.	Total Eq. & Lab. Costs	Quantity	Units	C	Cost
Remove cords, guards, chutes, catwalk, handrails etc. Load onto truck for transport to Milford											
Mechanics Truck	1090	16.45	0.1	69.85	94.76	1	94.76		2 Hrs	\$	190
Manlift	5133	13.95	0.1	52.25	84.11	1	84.11		2 Hrs	\$	168
Flatbed / Transport Truck	2975	34.3	0.1	52.25	108.57	1	108.57		2 Hrs	\$	217
										\$	575

100' Loadout Stacker	Equipment Cost	Hourly Operating Costs	Equipment Overhead	Operator's Hourly Wage Rate	Hourly Cost	Number of Men or Eq.	Total Eq. & Lab. Costs	Quantity	Units	Co	ost
Non-folding - Remove cords, chutes & Guards; Lift discharge end, lower to transport position.					74.58						
50 Ton Crane	9985	67.65	0.1	67.75	204.57	1	204.57		2 Hrs	\$	409
Mechanics Truck	1090	16.45	0.1		94.76	1	94.76		2 Hrs	\$	190
Manlift	5133	13.95			99.67	1	99.67		2 Hrs	\$	199
Flatbed / Transport Truck	2975	34.3	0.1	52.25	108.57	1	108.57		2 Hrs	\$	217
										\$	1,015

Wet Screen	Equipment Cost	Hourly Operating Costs	Equipment Overhead	Operator's Hourly Wage Rate	Hourly Cost	Number of Men or Eq.	Total Eq. & Lab. Costs	Quantity	Units		Cost
Remove cords, guards, chutes, catwalk, handrails etc. Load onto truck for transport to Milford											
50 Ton Crane	9985	67.65	0.1	67.75	204.57	1	204.57		Hrs	\$	205
Mechanics Truck	1090	16.45	0.1	69.85	94.76	1	94.76		Hrs	\$	1,137
Manlift	5133	13.95	0.1	52.25	99.67	1	99.67		Hrs	\$	598
Flatbed / Transport Truck	2975	34.3	0.1	52.25	108.57	1	108.57	2	Hrs	\$	217
										s	2.157
										\$	2,157

150' Overflow Stacker	Equipment Cost	Hourly Operating Costs	Equipment Overhead	Operator's Hourly Wage Rate	Hourly Cost	Number of Men or Eq.	Total Eq. & Lab. Costs	Quantity	Units	Cost
Foldable - Remove cords, chutes & Guards; Lift discharge end, rotate wheels, fold, lower to transport position. Tow to Milford	9									
50 Ton Crane	9985	67.65	0.1	67.75	204.57	1	204.57		B Hrs	\$ 614
Mechanics Truck	1090	16.45	0.1	69.85	94.76	1	94.76		Hrs	\$ 284
Manlift	5133	13.95	0.1	52.25	99.67	1	99.67		Hrs	\$ 299
Flatbed / Transport Truck	2975	34.3	0.1	52.25	108.57	1	108.57	2	Hrs	\$ 217
										\$ 1,414

Water Well Storage Tank	Equipment Cost	Hourly Operating Costs	Equipment Overhead	Operator's Hourly Wage Rate	Hourly Cost	Number of Men or Eq.	Total Eq. & Lab. Costs	Quantity	Units	Cost
Remove plumbing. Load onto truck for transport to Milford						74.00				
Mechanics Truck	1090	16.45	0.1	69.85	94.76	1	94.76		2 Hrs	\$ 190
Manlift	5133	13.95	0.1	52.25	99.67	1	99.67	2	Hrs	\$ 199
Flatbed / Transport Truck	2975	34.3	0.1	52.25	108.57	1	108.57	2	Hrs	\$ 217
			9 - 70							
										- 5 4
			-							
							17.20.00			
										\$ 606

Clean Scrap Yard	Equipment Cost	Hourly Operating Costs	Equipment Overhead	Operator's Hourly Wage Rate	Hourly Cost	Number of Men or Eq.	Total Eq. & Lab. Costs	Quantity	Units	Cost
Cut estimated 50 tons of scrap and haul to railroad cars										
Mechanics Truck	1090	16.45	0.1		94.76	1	94.76		Hrs	\$ 948
Manlift	5133	13.95	0.1		99.68	1	99.68		Hrs	\$ 997
Cat 980 Loader	11080	63.75	0.1	67.75	207.13	1	207.13		Hrs	\$ 1,036
Flatbed / Transport Truck	2975	34.3	0.1	52.25	108.57	1	108.57	10	Hrs	\$ 1,086
										\$ 4,066

Fuel Storage Tanks (3)	Equipment Cost	Hourly Operating Costs	Equipment Overhead	Operator's Hourly Wage Rate	Hourly Cost	Number of Men or Eq.	Total Eq. & Lab. Costs	Quantity	Units	Cost
Remove pumps and plumbing Load onto truck for transport to Milford										
Mechanics Truck	1090	16.45	0.1	69.85	94.76	1	94.76		3 Hrs	284.28
Manlift	5133	13.95	0.1	52.25	99.67	1	99.67		Hrs	299.01
Flatbed / Transport Truck	2975	34.3	0.1	52.25	108.57	1	108.57		Hrs	325.71
				**						
										909

MCC Conex	Equipment Cost	Hourly Operating Costs	Equipment Overhead	Operator's Hourly Wage Rate	Hourly Cost	Number of Men or Eq.	Total Eq. & Lab. Costs	Quantity	Units	Cost
Remove cords, steps, and air conditioner Load onto truck for transport to Milford										
Mechanics Truck	1090	16.45	0.1	69.85	94.76	1	94.76		4 Hrs	\$ 379
Manlift	5133	13.95	0.1	52.25	99.67	1	99.67		4 Hrs	\$ 399
Flatbed / Transport Truck	2975	34.3	0.1	52.25	108.57	1	108.57		2 Hrs	\$ 217
										The state of the s
				4						
										\$ 995
The state of the s										

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5/23/2011

Truck Scale	Equipment Cost	Hourly Operating Costs	Equipment Overhead	Operator's Hourly Wage Rate	Hourly Cost	Number of Men or Eq.	Total Eq. & Lab. Costs	Quantity	Units	C	Cost
Remove sand panels, guard rail, steps, handrail Disconnect weight bridge and load cells Load onto truck for transport to Milford											
Mechanics Truck	1090	16.45	0.1	69.85	94.76		94.76		Hrs	\$	758
Manlift	5133	13.95		52.25	99.67	HEAD EST	99.67		B Hrs	\$	797
Flatbed / Transport Truck	2975	34.3	0.1		108.57		108.57		4 Hrs	\$	434
50 Ton Crane	9985	67.65	0.1	67.75	204.57		204.57		Hrs	\$	409
					117121111					\$	2,399

Equipment Removal to auction lot in Milford	Mode	Equipment Cost	Hourly Operating Costs	Equipment Overhead	Operator's Hourly Wage Rate	Hourly Cost	Number of Men or Eq.	Total Eq. & Lab. Costs	Units	Quantity	Units	(	Cost
						50.05		52.25	/Lle		1 Hrs	\$	52.25
Cat 980 Loader	drive-off				52.25	52.25	1	52.25			1 Hrs	\$	104.50
Cat 988 Loader	drive-off				52.25	52.25	2				1 Hrs	\$	156.75
Cat 769 Haul Trucks	drive-off				52.25	52.25	3					\$	52.25
Cat 14G Blade	drive-off				52.25	52.25	1	52.25			1 Hrs		52.25
International 4900 Bucket Truck	drive-off				52.25	52.25	1	52.25			1 Hrs	\$	
8000 Ford Weld Trucks	drive-off				52.25	52.25	2	104.5			1 Hrs	\$	104.50
Pickup Trucks	drive-off				52.25	52.25	5	261.25			1 Hrs		261.25
Fuel Truck	drive-off			The state of the s	52.25	52.25	1	52.25			1 Hrs	\$	52.25
Water Truck	drive-off				52.25	52.25	1	52.25			1 Hrs	\$	52.25
Cat D 10 Dozer	transport	2975	34.3	0.1	52.25	108.57	1	108.57			2 Hrs		217.14
Cat D 9 Dozer	transport	2975	34.3	0.1	52.25	108.57	1	108.57			2 Hrs		217.14
70 Grove Crane	transport	2975	34.3	0.1	52.25	108.57	1	108.57			2 Hrs	_	217.14
Genie Manlift	transport	2975	34.3	0.1	52.25	108.57	1	108.57			1 Hrs	\$	108.57
Skid Steer Bobcat	transport	2975	34.3	0.1	52.25	108.57	1	108.57	/Hr		1 Hrs	\$	108.57
			To leave			10 10 10 10							
												\$ 1	,756.81

## **EARTHWORKS COST SUMMARY**

Task	Cost
Drill & Shoot	\$ 388,727
Reject Stockpile Slope Reduction	\$ 75,537
Deep Rip Haul Roads	\$ 114,196
Topsoil	\$ 771,430
Revegetation	\$ 101,147
Ponds & Drainage	\$ 89,092
Rail Spur Removal	\$ 527,321
	24 15
Total	\$ 2,067,451

## **DRILL AND SHOOT**

Subtotal						\$ 388,727
Documentation included in report						
Note: Unit costs are from actual contractor costs at qual	rry					
	1000					
			F7 2 5 5 5	4.7		
			100			
			11 11 11			
Drill & Shoot	\$	1.03	\$/Cy	377405	Су	\$ 388,727
Task	Eq.	otal & Lab. osts	Units	Quantity	Units	Cost

#### REJECT STOCKPILE SLOPE REDUCTION

Reject Stockpile Slope Reduction	Equipment Cost	Hourly Operating Costs	Equipment Overhead	Operator's Hourly Wage Rate	Hourly Cost	Number of Men or Eq.	Total Eq. & Lab. Costs	Units	Quantity	Units	Production Rate	Units	Equip. + Labor Time/Dis.	Units	Cost
Cat D10R Dozer with Semi-Universal Blade	\$ 30,995	\$ 150.10	0.1	\$ 67.75	\$ 426.58		1 \$ 426.58	\$/Hr	175000	Су	988	Cy/Hr	177.1	Hrs	\$ 75,537
				7 Jan 17 Jan										100	
				71.5	3. 45. 5										
Total															\$ 75,537

#### DEEP RIP HAUL ROADS

Deep Rip Haul Roads	Equipment Cost	Hourly Operating Costs	Equipment Overhead	Operator's Hourly Wage Rate	Hourly Cost	Number of Men or Eq.	Total Eq. & Lab. Costs	Units	Quantity	Units	Production Rate	Units	Equip. + Labor Time/Dis.	Units	Cost
Cat D10R Dozer	\$ 30,995	\$ 150.10	0.1	\$ 67.75	\$ 426.58		1 \$ 426.58	\$/Hr	223,000	Cv	933	Cy/Hr	239	Hrs	\$ 101,978
Multi-Shank Ripper	\$ 5,485		0.1		\$ 51.11		1 \$ 51.11		200				239	Hrs	\$ 12,218
		134						10.000	25-21-20-2						
			36	167											
			132.2												
Subtotal															\$ 114,196

#### TOPSOIL

Topsoil	E	quipment Cost	Hourly Operating Costs	Equipment Overhead	Operator's Hourly Wage Rate	Hourly Cost	Number of Men or Eq.	Total Eq. & Lab Costs	Units	Quantity	Units	Production Rate	Units	Equip. + Labor Time/Dis.	Units	Cost
Cat 623G Scraper	5	21 200	\$ 113.95	0.1	67.75	\$ 325.60	1	\$ 325.60	) S/Hr	370,186	Cv	220	Cy/Hr	1681	Hrs	\$ 547,205.6
Cat D10R Dozer (25% Scraper Time)	\$		\$ 150.10					\$ 426.58		370,186					Hrs	\$ 179,228
Multi-Shank Ripper	\$	5,485				\$ 51.11		\$ 51.1		370,186					Hrs	\$ 21,474
Water Truck (4,000 Gallon)	\$	3,765				111.97		\$ 111.9		370,186	Су			210	Hrs	\$ 23,522
Subtotal																\$ 771,430

#### REVEGETATION

Revegetation	Ec	quipment Cost	Hourly Operating Costs	Equipment Overhead	Operator's Hourly Wage Rate	Hourly Cost	Number of Men or Eq.	Total Eq. & Lab. Costs	Units	Quantity	Units	Production Rate	Units	Equip. + Labor Time/Dis.	Units	Cost
Farm Tractor - Disc	\$	2,725	\$ 15.50	0.1	67.75	101.83		101.83	\$/Hr	173.5	Acres	1.0	Acre/Hr	173	Hrs	\$ 17,663
Farm Tractor - Seed	\$	2,725	\$ 15.50	0.1		101.83		101.83			Acres		Acre/Hr		Hrs	17,663
Farm Tractor - Mow	\$	2,725		0.1		101.83	1	101.83			Acres	2.0	Acre/Hr	87	Hrs	\$ 8,832
Redo Contingency - 20%	\$	2,725	\$ 15.50	0.1	67.75	101.83	-	101.83	\$/Hr	-	Acres	1.0	Acre/Hr		Hrs	\$ 8,832
Maintenance (Mow)	\$	2,725		0.1		101.83	1			173.5	Acres	2.0	Acre/Hr	87	Hrs	\$ 8,832
Seed Cost										\$ 39,325	Lumpsum					\$ 39,325
									Test in		88					
Subtotal																\$ 101,147

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#### **PONDS & DRAINAGE DITCHES**

Ponds & Drainage	Equipment Cost	Hourly Operating Costs	Equipment Overhead	Operator's Hourly Wage Rate	Hourly Cost	Number of Men or Eq.	Total Eq. & Lab. Costs	Units	Quantity	Units	Production Rate	Units	Equip. + Labor Time/Dis.	Units	Cost
Ponds & Ditches															
Cat D10R Dozer	\$ 30,995	\$ 150.10	0.1	\$ 67.75	\$ 426.58	1			28,812	Су	359	Cy/Hr	80		\$ 34,278
Multi-Shank Ripper	\$ 5,485	\$ 15.30	0.1		\$ 51.11	1			28,812	Су			80		\$ 4,107
Cat 623G Scraper	\$ 21,200	\$ 113.95	0.1	67.75	\$ 325.60	2			28,812	Су	225	Cy/Hr	128		\$ 41,771
Water Truck (4,000 Gallon)	\$ 3,765	\$ 32.90	0.1	52.25	\$ 111.97	1			28,812	Су			20	Hrs	\$ 2,249
Dozer Basin Construction															
Cat D10R Dozer	\$ 30,995	\$ 150.10	0.1	\$ 67.75	\$ 426.58	1			14	Ea	1.0	Hr	14	Hrs	\$ 5,972
Multi-Shank Ripper	\$ 5,485	\$ 15.30	0.1		\$ 51.11	1			14	Ea	1.0	Hr	14	Hrs	\$ 716
					202										
Subtotal			2000						100000000000000000000000000000000000000						\$ 89,092

#### RAIL SPUR REMOVAL

Rail Spur Removal	E	quipment Cost	Hourly Operating Costs	Equipment Overhead	Operat Hour Wage F	ly	Hourly Cost	Number of Men or Eq.	Total Eq. & Lab Costs	Units	Quantity	Units	Production Rate	Units	Equip. + Labor Time/Dis.	Units	Cost
Track Removal						-			\$ 12.1	s/Lft	27,330	LFt					\$ 330,69
Ballast Removal			100		. 13		Berthe L. S			S/Cy	18,201					BELLEVI	\$ 109,20
Cat D10R Dozer	\$	30,995	\$ 150.10	0.1	\$ 67	.75	\$ 426.58		1	1	43,931		1219	Cy/Hr	36	Hrs	\$ 15,37
Multi-Shank Ripper	\$	5,485	\$ 15.30			_	\$ 51.11		1		43,931	Су			36	Hrs	\$ 1,84
Cat 623G Scraper	\$	21,200	\$ 113.95	0.1	6	7.75	\$ 325.60		1	12.00	25,035	Су	225	Cy/Hr	111	Hrs	\$ 36,29
Cat D10R Dozer	\$	30,995	\$ 150.10	0.1	\$ 67	.75	\$ 426.58		1		25,035	Су			56	Hrs	\$ 23,77
Multi-Shank Ripper	\$	5,485	\$ 15.30	0.1	70.		\$ 51.11		1	- 121	25,035	Су			56	Hrs	\$ 2,84
Water Truck (4,000 Gallon)	\$	3,765	\$ 32.90	0.1	5.	2.25	\$ 111.97								56	Hrs	\$ 6,24
Farm Tractor	\$	2,725	\$ 15.50	0.1	6	7.75	101.83	1	1		10.3	Acres	1.0	Acre/Hr	10	Hrs	\$ 1,04
Subtotal																	\$ 527,32

Milford Quarry	
05/02/11	
A.K	
	05/02/11

# WORKSHEET 1 PRODUCTIVITY AND HOURS REQUIRED FOR DOZER USE

Earthmoving Activity:	
R	eject Pile Slope Reduction
Characterization of Dear	or Hood (type give etc.)
	er Used (type, size, etc.):
C	CAT D10R - Semi-Universal Blade
Description of Dozer Use	e (origin, destination, grade, haul distance, material, etc.):
L	ocation: Reject Stockpile #2
	flaterial: Loose shot rock
	verage push distance; 200 Ft
U	Downhill push to a 3.7 to 4:1 slope
Productivity Calculations	
Operator Adjustment Fa	ctor = 0.75 x 1.00 x 0.83 x 1.50 x 1.00  operator material efficiency grade weight factor factor factor factor
	X 1.20
Net Hourly Production =	980 LCY/hr x 1.01 = 988 LCY/hr normal hourly operating adjustment factor
Hours Required =	175000 LCY ÷ 988 LCY/hr = 177.1 hr(s)  volume to net hourly be moved production
Data Source(s):	

CAT Performance Handbook

Project:	Milford Quarry
Date:	05/03/11
Prepared by:	A.K

## WORKSHEET 2 PRODUCTIVITY AND HOURS REQUIRED FOR RIPPER-EQUIPPED DOZER USE

Ripping Activity:	
	Deep Rip Haul Roads
Characterization	of Dozer and Ripper Use:
	CAT D10R with Ripper
Description of R	ipping (ripping depth, cut spacing, cut length, and material to be ripped):
	Rip Length = 500 Ft
	Rip Depth = 2 Ft Quantities
	Ballast Pit & Facilities = 67.14 Acres
	Riprap Pit = 1.97 Acres
Productivity Cal	
Troudouvity Out	<u></u>
Cycle Time =	500 ft ÷ 88 ft/min + 0.25 min = 5.9 min/pass
	cut [speed] fixed turn length time*
Passes/Hour =	
rasses/nour -	60 min/hr ÷ 5.9 min/pass x 0.83 = 8.4 passes/hi
	factor
Volume Cut/Pas	s = ( 2.0 ft x 3 ft x 500 ft ) ÷ 27 ft <sup>3</sup> /yd <sup>3</sup>
	tool cut cut
	penetration spacing length
	= 111.11 BCY/pass
Hourly Production	on = 111.11 BCY/pass x 8.4 passes/hr = 933 BCY/hr
Hours Required	
	bank volume to hourly be ripped** production
	마스 경험에서 가는 마시 아무는 마시는 나가 되었다. 그는 학생들이 가는 아무리를 하는 것이 없는 것이 없는 것이 없는데 없었다. 그런데 그렇게 되었다.

Data Source(s): CAT Performance Handbook

<sup>\*</sup> Fixed turn time depends upon dozer used. 0.25 min/turn is normal.

<sup>\*\*</sup> Remember to use the swell factor to convert from bank cubic yards to loose cubic yards when applying these data to Worksheet 5. Calculate separate dozer hauling of ripped material for each lift on that worksheet.

Project:	Milford Quarry	
Date:	05/04/11	
Prepared by:	AK	

### WORKSHEET 3 PRODUCTIVITY OF PUSH-PULL OR SELF-LOADING SCRAPER USE

Earthmoving Activity:	
	Haul and spread Topsoil
Characterization of S	craper Used (type, capacity, etc.):
	Cat Scraper 623G
Description of Scrape	er Use (origin, destination, grade, haul distance, capacity, etc.):
	One way haul distance = 1400 Ft Rolling Resistance = 2% Grade Resistance = 8%
Productivity Calculation	ons:
Cycle Time =	0.9 min + 2.3 min + 0.7 min + 1.3 min load time (push-pull is per pair)
	= 5.1 min (push-pull is per pair)
Hourly Production =	23.0 LCY X 60 min/hr ÷ 5.1 min X 0.83 cycle efficiency time** factor
	= 224.6 LCY/hr (push-pull is per pair)
Hours Required =	volume to be net hourly handled production LCY/hr = hr

<u>Data Source(s):</u> Caterpillar Performance Handbook

 $<sup>^{\</sup>star}$  The average of the  $\underline{\text{struck}}$  and  $\underline{\text{heaped}}$  capacities; use total for two scrapers for push-pull.

Project: Milford Quarry

Date: 5/12/11 Prepared By: A.K

# WORKSHEET 4 PRODUCTIVITY REQUIRED FOR DOZER USE - GRADING

Characterization of Dozer (type, D 10R SU

Correction Factors				
Operator Factor	0.75			
Material Factor	1.2			
Slot Dozing	1.2			
Effeciency Factor	0.83			
Grade Factor	1			
Visibility Factor	0.8			
Total Adjustment Factors	0.717			
Productivity Calculations:				
Average Push Distance (Ft)	100	200	400	500
Dozing Productivity (Lcy/Hr)	1700	925	500	400
Adjusted Productivity (Lcv/Hr)	1219	663	359	287

Source: Caterpillar Performance Handbook

Project:	Milford Quarry
Date:	05/03/11
Prepared by:	A.K

## WORKSHEET 5 PRODUCTIVITY AND HOURS REQUIRED FOR DOZER USE - GRADING

Earthmoving Activity:	
Characterization of Doze	r Used (type, size, etc.):
C	CAT D10R - Semi-Universal Blade
2 2 3 5 6	
Description of Dozer Use	e (% grade, effective blade width, operating speed, etc.):
	Location: Reject Stockpile #2
	Material: Loose shot rock Average push distance; 200 Ft
C	Downhill push to a 3.7 to 4:1 slope
Producti it of the Colonial	
Productivity Calculations	
Operator Adjustment Fac	operator factor factor factor factor factor factor factor factor
	x 1.00 x 0.90 x 1.00 = 1.01  production visibility elevation method/blade factor factor
Hourly Production =	2.0 mi/hr X 15.9 ft X 5280 ft/mi X 0 ac average speed blade width
	$\div$ 43560 $\text{ft}^2$ = 980.0 cy/hr
Net Hourly Production =	980.0 ac/hr x 1.01 = 988 cy/hr  operating adjustment factor
Hours Required =	area to be net hourly graded production ac/hr = 0.0 hr(s)

Data Source(s): Caterpillar Performance Handbook

R43510

Martin Marietta Materials, Inc.

P.O. Box 30013 Raleigh, NC 27622

. 04/05/11 - 15:20:39

Page

Receiver - 8267236- 1- WR

Supplier - 327162

Ship From

SANDEX INC

500 PARKSON RD SUITE A

PO BOX 91390

HENDERSON NV 89009-1390

Ship To

Milford Quarry - Utah 4.5 Miles N on County Rd 163

Milford UT 84751

4-5-11 Accrued for in March

Order Date Requested 03/31/11 Supplier

03/31/11 Order Taken By

NW Contract Blast/FT

Ordered By IHDESHK

Account Number	Description 1	Description 2	Quantity Ordered	UM	Unit Cost	Extended ExPrice	Line	Quantity Open		set/WO lumber
55101.44520.20 20 CONTRACT DRILLING	DRILL RENTAL DM45	SERVICE	7,0000	HR	250.0000	1,750.00	1.000		1	
55101.44520.20 20 CONTRACT DRILLING	DRILL RENTAL DM45	SERVICE	7.0000	HR	250.0000	1,750.00	2.000 		•	
55101.44520.20 20 CONTRACT DRILLING	DRILL RENTAL DM45	SERVICE	8.0000	HR	250.0000	2,000.00	] 3.000 I		8	
55101.44520.20 20 CONTRACT DRILLING	DRILL RENTAL DM45	SERVICE	8.0000	HR	250.0000	2,000.00	4.000		8_	
55101.44520.20 20 CONTRACT DRILLING	DRILL RENTAL DM45	SERVICE	8.5000	HR	250.0000	2,125.00	5.000		2.5	

R43510

Martin Marietta Materials, Inc.

P.O. Box 30013

Raleigh, NC 27622

Date - 04/05/11 Time - 15:20:39

Page - 2

Receiver - 8267236- 1- WR

Supplier - 327162

Ship From

SANDEX INC

500 PARKSON RD SUITE A

PO BOX 91390

HENDERSON NV 89009-1390

Ship To

Milford Quarry - Utah

4.5 Miles N on County Rd 163

Milford UT 84751

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A CONTRACTOR OF THE SECOND CONTRACTOR OF THE S

Receipt Date

Order Date 03/31 Requested 03/31		Supplier Order Taken By	NW Contract Blast/FT					1 0	ordered By	IHDESHK
Account Nu	umber	Description 1	Description 2	Quantity Ordered	UM	Unit Cost	Extended ExPrice	Line Number	Quantity Open	Rec'd Asset/Wi
55101.44520.20 20 CONTRACT DRIL		DRILL RENTAL DM45	SERVICE	9.5000	HR	250,0000	2,375.00	6.000 		9.5
55101.44520,20 20 CONTRACT DRIL		ANFO BULK	BLASTING AGENT BULK-ANFO	248.8000	cw	31.0000	7,712.80	7.000 		548
55101,44520.20 20 CONTRACT DRIL		SPARTAN 350	BOOSTERS	80.0000	EA	6.8300	409.80	8.000 		40
55101.44520.20 0 CONTRACT DRIL		SPARTAN 450	BOOSTERS	60.0000	EA	7.1000	426.00	9.000		60
55101.44520.20 20 CONTRACT DRIL		80' EZ DETS	NON ELEC DETONATORS	60.0000	EA	16.5000	990.00	10.000 		<u>le0</u>
55101.44520.20		40' EZ DETS	NON ELEC DETONATORS	60.0000	EA	12.9000	720.00	11.000		60

R43510	Martin Marietta Materials, Inc. P.O. Box 30013		Date Time	- 04/05/11 - 15:20:39				Receipt Di	ale
	Raleigh, NC 27622			- 10.20.39					***************************************
			Page		1- WR				
				- 8267236-	1- VVR				
Ship From	SANDEX INC	Ship To Milford Quarry - Utah	Supplier	- 327162					
Grip ( rom	500 PARKSON RD SUITE A	4.5 Miles N on County Rd 163							
	PO BOX 91390	Milford UT 84751							
	HENDERSON NV 89009-1390	Milliord UT 84751							
							1		
	03/31/11 Supplier 03/31/11 Order Taken By	NW Contract Blast/FT			00000000000000000000000000000000000000			Ordered By	IHDESHK
Ассон	int Number Description 1	Description 2	Quantity	UM	Unit	Extended ExPrice	Line Number	Quantity Open	Rec'd Asset
									ALLE AND SERVICE TO SERVICE TO SERVICE THE SERVICE TO SERVICE THE SERVICE TO SERVICE THE SERVICE TO SERVICE TO SERVICE THE SERVICE TO SERVICE THE SERVICE TO SERVICE THE SERVI
20 CONTRACT	DRILLING								
55101.4452	20:20 20° EZTL	NON ELECTRICAL PROPERTY.				40.04	10.000		7
30101.4402 20 CONTRACT		NON ELEC DETONATORS	7.0000	EA	6.0300	42.21	12.000		
20 CONTRACT	UNILENG								
55101,4452	20.20 LEAD IN LINE	OTHER ITEMS	1000.0000	FT	.1100	110.00	1 13.000		1000
		1 1 1 mm 1 1 1 mm (1 1 mm	1242.0000		0.0.100.00		,		

20 CONTRACT DRILLING

55101.44520.20

20 CONTRACT DRILLING

LABOR

SERVICE

23,410.81

50.0000

20.0000 HR

1,000.00 | 14,000

# MARTIN MARIETTA AGGREGATES BLAST REPORT

PLANT NC YEAR SHOT NO

BLAST REP	ORT										2011	23
QUARRY/MINE	Martin N	// Aarietta	a Milford	STATE	Utah	DATE:	03/23/11		TIME	OFBLAST	4:00 PM	
Type of Materia												
Weather Condit		-						Wind/	fromSpe	0	Temp F	40
Location of Blas												Converses of the converse of t
Direction/Distar	nce from Bla	st to N	learest No	n-Quarr	y Building	•	17000	ft				
Type of Blast:												
NUMBER OF H		-	-		nclined Ho	oles:			No. of	leveling Ho	les:	
HOLE DEPTH:	50	A 115	HOLE	SIZE	6.75	STEMN	ING HE	GHTS.	14	Type of s	temmina:	3/4 Gravel
BURDEN:	14		SPA	CING:	16	No.	of rows	3		Depth of S	ub Drilling:	5
Deck Loading:											'es	
Type of Initiation	n: Elec	tric	No. of S	eries/Cir	cuits	Non e	lectric	X	Other			
Blasting Machin												
If sequential, wa Detonators Use	d: Manufaci	tured b	NY	DYNO	x T	ype EZ Dets	163	Tota	_ I Numbe =	120		
MS L	ength		MS	Len	gth	MS	Len	gth		Higher period	i, NONEL,Det	Cord(no. of fee
60	30FT			60	24		60	24				
#1			#8			#15						
#2			#9			#16						
#3			#10			#17						
#4			#11			#18						
#5			#12			#19						
#6			#13			#20						
#7			#14				E-BIE					
Explosives Mate	erials and S	ervices	s Used:									
Pounds/	Units		Manufa	ctured By:			Name/Tra	demark				Size
2488	0				A	NFO					Bulk	

Pounds/Units	Manufactured By:	Name/Trademark	Size		
24880		ANFO	Bulk		
80		1# Cast			
		Iremite	1		
A SHEET WAS	MAGNINES SUBSTITUTE	Heet 30	Buk		

SHOT SERVICE:	Yes X		No	DEWAT	ERING	SERVICE:Yes	No _	X
TOTAL POUNDS I	N BLAST:	24960	TONS	SHOT:	51,520	POWDER FACTOR	:(TONS/LBS.)	2.06
EXPLOSIVES PER	FORMANCE/	SERVICE:	EXCELL_	X_ACCEP	TABLE	POOR	CPT _	0,11
BREAKAGE:	EXCELLE	N X	ACCEPTABLE _	POOR		COMMENTS		
WALL/BACK-BRE	AK CONDITIO	ON:	EXCELLENT	MODE	RATE	X POOR		

\$23,410.81/51,520tons X 2.27tons/cy = \$1.03/cy